

REMARKS/ARGUMENTS

Applicants received the Notice of Panel Decision from Pre-Appeal Brief Review dated September 27, 2007 and file this amendment and associated Request for Continued Examination (RCE) to further clarify the Applicants' arguments as well as further distinguish the claims over the cited art.

The Examiner presently has: 1) rejected claims 1-3, 6, 8-11, 13, 14, 17 and 18 under 35 U.S.C. § 102(b) as allegedly anticipated by Piccirillo et al. (U.S. Pub. No. 2002/0053010, hereinafter "Piccirillo"); 2) rejected claims 4, 5 and 12 under 35 U.S.C. § 103(a) as allegedly obvious over Piccirillo in view of McKenzie (U.S. Pat. No. 6,453,398, hereinafter "McKenzie"); and 3) rejected claims 7, 16 and 19 as allegedly obvious over Piccirillo in view of Nakamura et al. (U.S. Pat. No. 5,706,407, hereinafter "Nakamura"). Applicants amend claims 1, 2, 7, 10, 14, and 17, and cancel claims 4 and 5.

Claim 1 has been amended to require the memory subsystem to have "redundancy." Claim 1 also specifies that the memory subsystem's redundancy is used to permit transactions that target an isolated memory module to complete without actually accessing the isolated memory module. Claim 1 further specifies that an isolated memory module is tested via either (a) an SMI handler that accesses the memory module via an address in I/O space that is mapped to an address in memory space that corresponds to the memory module or (b) test logic internal to the memory module.

The Examiner seems to have focused primarily on para. [0088] of Piccirillo which is as follows (emphasis added for purpose of a statement below regarding claim 10):

[0088] The hot-plug events associated with the present system allow a user to remove a memory cartridge 25A-25E while the system remains operational. It may be desirable to be able to replace individual memory modules (DIMMs) while the system is still operational. Such a "hot-replace" feature provides the ability in a fault-tolerant memory configuration to **disable redundancy**, replace a failed DIMM with an equivalent DIMM, and then re-establish redundancy without significantly impacting normal system operation and without requiring the system to be powered down. Hot-replace is generally associated with a failure condition or a pre-failure

condition. A failure condition will result in a light associated with one of the DS LEDs 144 being illuminated indicating which corresponding DIMM has failed. For a pre-failure condition, the host/data controller 16,18 will indicate which DIMM is faulty. Once a user is notified of the failure, a normal hot-plug procedure described with reference to Table 7 is initiated on the memory cartridge 25A-25E containing the faulty DIMM. **The system is taken out of a redundant mode of operation**, and the individual memory cartridge is powered-down. The user then replaces the faulty DIMM and inserts the memory cartridge back into the system. The memory cartridge is then powered-up in accordance with the procedure described with reference to Table 6. Once the memory cartridge is powered up, it is rebuilt and verified for functionality. **If the memory cartridge has no faults, the system is returned to a redundant mode of operation.**

Piccirillo teaches disabling the redundancy mode of a memory subsystem, replacing a failed DIMM, verifying that the replaced DIMM is functional, and then re-enabling the redundancy mode of the memory subsystem. Piccirillo does not disclose completing transactions targeting a DIMM that is not yet verified and brought “on line.”

Claim 1 requires that a “memory module is present in the computer system but isolated wherein, using the memory subsystem’s redundancy, transactions that target said isolated memory module can complete without loss of data and without accessing said isolated memory module, and while isolated, said memory module is tested.” Piccirillo does not teach using a memory subsystem’s redundancy to complete transactions to an isolated memory module while the isolated memory module is being tested. Piccirillo does not teach that transactions are permitted to occur to a newly replaced DIMM while the DIMM is being verified. No other art of record satisfies this deficiency of Piccirillo.

The amendments to claim 1 also specify how an isolated memory module is tested. The testing uses either an SMI handler that accesses the memory module via an I/O address that is mapped to a memory address corresponding to the memory module or test logic internal to the memory module. Piccirillo has no such teaching. None of the art appears to teach or suggest the use of an SMI handler to teach test isolated memory modules in the context of claim 1.

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Prelim. Amdt. dated October 26, 2007

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For at least these reasons, claim 1 and all claims dependent thereon are allowable over the cited art.

Claim 10 requires using the memory redundancy to permit transactions that target the inserted memory module to complete without loss of data and without accessing the memory module. Claim 10, as amended, further comprises testing the inserted module via an SMI handler that uses one address mapped to another address corresponding to the isolated memory module or internal test logic. As explained above, Piccirillo has no such teachings.

Claim 14 requires the use of the redundancy of the memory subsystem to complete a transaction that targets a newly inserted, but isolated, memory module. As explained above, Piccirillo has no such teaching.

Claim 17 has been amended in several respects, all of which have been discussed with regard to other claims. Claim 17 is allowable for much the same reasons articulated above regarding, for example, claim 1.

Applicants respectfully request reconsideration and that a timely Notice of Allowance be issued in this case. It is believed that no extensions of time or fees are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 C.F.R. § 1.136(a), and any fees required (including fees for net addition of claims) are hereby authorized to be charged to Hewlett-Packard Development Company's Deposit Account No. 08-2025.

Respectfully submitted,

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